



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,229	09/25/2001	Vaughn R. Marian	2001P 16465 US	1823

7590 10/04/2002

Siemens Corporation
Intellectual Property Department
186 Wood Avenue South
Iselin, NJ 08830

EXAMINER

JUNG, WILLIAM C

ART UNIT

PAPER NUMBER

3737

DATE MAILED: 10/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/964,229

Applicant(s)

MARIAN, VAUGHN R.

Examiner

William Jung

Art Unit

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

Response to Amendment

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 11-15, 19-22, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Fujio et al* (US 5,471,988) in view of *Ben-Haim* (US 6,083,170).

Fujio substantially discloses of all claimed inventions in claims 1-5, 11-15, 19-22, 25, and 26 as set forth in previous action, where the ultrasound probe **20** includes tubular section **21** insertable in a body, handle portion **32**, and adjustable section or bending section **21**.

Claims 1 and 11:

Ben-Haim discloses of insertable catheter with ultrasound transducer at the distal end of the catheter (col. 8, line 25-48). The catheter has bending portion, which is able to bend in any direction without steering wire (col. 11, line 30 – col. 12, line 29). Ben-Haim also discloses that the bending portion of the catheter may be replaced with steering wire as an alternative design (col. 12, line 40-52).

Claims 2, 12, and 13, 19-21:

Fujio's catheter has rotatable transducer section to scan multiple angles (col. 15, line 54-65).

Claims 3, 4, and 14:

In both Ben-Haim (col. 12, line 21-30) and Fujio (col. 9, line 49-52), the probe/catheter has flexible portion, which can bend at multiple directions. In addition, the bending of the adaptable portion of the probe is independent of past position; i.e. the probe is memoryless.

Claims 5, 15, and 22:

Ben-Haim's bendable section of the probe consists of bimetal elements 82 and 84 (col. 12, line 10 -14).

Claims 25 and 26:

Ben-Haim's flexible probe bends in response to a distal tip deflection, i.e. pressure/external pressure induced on the probe at any point during insertion of the probe into a cavity (col. 4, line 52-62).

Ben-Haim clearly anticipates that the ultrasound catheter can be designed with or without steering wire to control the bending of the catheter, which can be applied to similar catheter described by Fujio. Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to apply the teachings of Fujio to the teachings of Ben-Haim to achieve the claimed inventions in claims 1-5, 11-15, and 26.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Fujio et al* and *Ben-Haim* as applied to claims 1 and 5 above, and further in view of *Bernstein et al* (US 5,163,421).

Fujio and Ben-Haim substantially discloses of all claimed inventions in claims 18 and 22.

Bernstein discloses of flexible catheter where the metal shaft of the probe may be made of aluminum (col. 6, line 1-56). The motivation of Bernstein's catheter design was to provide flexible apparatus, which can be insertable in body, more specifically designed to use in vivo ultrasonic angioplasty. Bernstein, Fujio, and Ben-Haim, all share same motivation of designing flexible catheter, which can for insertion into a patient. Ben-Haim demonstrated as shown above that the flexing mechanism can be interchangeable. Therefore, it would have been obvious to one having an ordinary skill at the time the invention was made to apply the teachings of Fujio and Ben-Haim to the teachings of Bernstein to achieve the claimed inventions.

5. Claims 7, 8, 16, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Fujio et al* and *Ben-Haim* as applied to claims 1, 11, and 19 above, and further in view of *Lemelson* (US 5,845,646).

Fujio and Ben-Haim substantially discloses of all claimed inventions in claims 7, 8, 16, and 23. Lemelson discloses of flexible catheter where the bending of the catheter is controlled by ball joint and tensioned wire (col. 13 line 8- 27). Ben-Haim has demonstrated that the mechanics of catheter tip manipulation can be interchanged from one design to another, therefore, it would have been obvious to one having an ordinary skill at the time the invention was made to apply the teachings of Fujio and Ben-Haim to the teachings of Lemelson's ball joint and tensioned wire to achieve the claimed inventions.

6. Claims 9, 10, 17, 18, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Fujio et al* and *Ben-Haim* as applied to claims 1, 11, and 19 above, and further in view of *Flesch* (US 5,681,263).

Fujio and Ben-Haim substantially discloses of all claimed inventions in claims 9, 10, 17, and 24. Flesch discloses of endoscopic ultrasound catheter/probe where the flexible portion of the probe is made of elastomers. In addition, the control of the probe's flexible portion has latch 34 with notched portion 36 connected to the transducer portion and the handle portion as shown in figures 1-3 (col. 3, line 7-28). Ben-Haim has demonstrated that the mechanics of catheter tip manipulation can be interchanged from one design to another, therefore, it would have been obvious to one having an ordinary skill at the time the invention was made to apply the teachings of Fujio and Ben-Haim to the teachings of Flesch to achieve the claimed inventions.

Art Unit: 3737

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William Jung whose telephone number is 703-605-4364. The examiner can normally be reached on Mon-Fri 8:30 AM to 5 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marvin Lateef can be reached on 703-305-3256. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-0758 for regular communications and 703-308-0758 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.

William Jung
Examiner
Art Unit 3737

WJ

September 12, 2002


Francis J. Jaworski
Primary Examiner